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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Angelo Bastioli

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EXAMINER

CHANG, VICTOR S

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/784,707	Applicant(s) BASTIOLI ET AL.	
	Examiner Victor S. Chang	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,7,8,10-32,39,40 and 46-51 is/are pending in the application.
- 4a) Of the above claim(s) 46 and 50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-4,7,8,10-32,39,40,47-49 and 51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. Applicants' remarks filed on 8/27/2007 have been entered. New claim 51 has been entered. Claims 1-4, 7, 8, 10-32, 39, 40, 47-49 and 51 are active.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In response to the amendments, the grounds of rejections have been updated as set forth below.

Claim Rejections - 35 USC § 112

4. Claims 1-4, 7, 8, 10-32, 39, 40 and 47-49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, the cell distribution has been amended in a reply filed 5/9/2006 to recite "at least" 80% of the cells have a size range from 20 to 400 μm . Applicants pointed to Example 1 (wherein the cell dimension is between 40 and 170 μm whereby 100% of the cells have a dimension from 40 to 400 μm) and Example 10 (wherein the cell dimension is between 35 and 188 μm) as supports for the amendment. However, the lower end point of the recited cell size

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range in claim 1 is incommensurate with the lower end points in any these examples, therefore the amendment is new matter.

Similarly, in the reply filed 5/9/2006 the added terms “at least” to the cell distribution in claims 2 and 3 are new matter, because none of the Examples show the same cell distribution ranges as claimed.

Additionally, Applicants stated in the amendment filed 5/9/2006 that the support for the amylase content of 28 wt%, 26 wt% and 20 wt% in new claims 47-49 can be found in “Starch Chemistry and Technology” is improper, and deemed to be new matter as well, because the reference has not previously been incorporated in the specification and therefore they are not supported by the original disclosure. Further, applicants have provided no evidence in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Rejections Based on Prior Art

5. Claims 1-4, 7, 8, 10-32, 39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Altieri [US 5153037].

Altieri's invention relates to a biodegradable shaped product comprising a close-cell expanded modified flour product. The cell size is typically about 100 to 600 microns and the bulk density of the product is from about 0.1 to 5 lb/ft³ (i.e., 1.6 to 80.3 kg/m³) [col. 7, lines 21-29]. Starches from different sources, e.g., potato, corn, tapioca, and rice, etc., and unmodified or modified, may be used [col. 4, lines 4-15 and lines 38-40]. “Modified” means that the starch can be derivatized or modified by typical processes known in the art, such as by esterification,

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etherification, oxidation, acid hydrolysis, or cross-linking and enzyme conversion [col. 4, lines 47-51], which inherently renders the starch as a destructured or complexed starch. The density as well as resiliency and flexibility can be improved by incorporation of synthetic materials such as polyvinyl alcohol, polyvinyl acetate, polyurethane, polystyrene, poly(ethylene vinyl acetate) and polyvinylpyrrolidone [col. 5, lines 28-32]. The modified and unmodified starch are inherently biodegradable polymers of natural origin.

For claims 1-4, 7, 8, 10-32, 39, 40, Altieri is silent about the cell size distribution and the intrinsic viscosity of the foamed product in DMSO. However, since Altieri teaches the same subject matter of the same structure and composition, and made by the same process for the same use as the instant invention, a workable range of cell size distribution and the process property related intrinsic viscosity are deemed to be either anticipated, or obviously provided by practicing the invention of prior art.

6. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Altieri [US 5153037] in view of Gallagher et al. [US 5219646].

The teachings of Altieri are again relied upon as set forth above.

Altieri is silent about the use of polyester/starch blend. However, since Altieri clearly suggests that the density as well as resiliency and flexibility can be improved by incorporation of synthetic materials, and Gallagher [abstract] teaches that blends of starch with polyesters are useful for forming shaped articles of foams etc., for reduced costs and providing adequate strength and toughness properties, it would have been obvious to one of ordinary skill in the art to blend Altieri's modified starch with polyester for improved properties. The polyesters are based upon polyethylene terephthalate, which is inherently a thermoplastic polymer.

Response to Argument

7. Applicants argue [Remarks pages 12-13] that they do not understand the examiner's statement concerning the lower end points set forth in the Examples as not being commensurate in scope with the claims, and argue that the Examples support the recitation of "at least". However, none of the Examples show the term "at least"; further, the range starting and/or end points in the Examples are incommensurate with the cell size ranges recited in claims 1-3, they are deemed as new matter. It should be noted that the ranges arbitrarily selected from data points in Examples of different experimental conditions are considered new matter.

Applicants argue [Remarks pages 13-14] that the contents in "Starch Chemistry and Technology" are not new matter, because they are inherent properties to the specific starches. However, while these disclosed starches may contain lower amylose content, nowhere is there a disclosure that these starches necessarily contain a low amylose content. Further, even if low amylose content starches are available, applicants have provided no evidence in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Applicants argue [Remarks page 13] that since 100% of the cell dimension lies within the broader range of 20 to 400 μm , the term "at least" would literally meet the claimed range. However, since the claimed range itself is new matter, it is unseen how the term "at least" is not a new matter.

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Applicants argue [Remarks page 14] that Altieri teaches an invention must have a starting starch material of a high amylose starch. However, nowhere has applicants excluded Altieri's high amylose content starch from the claimed invention.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1771

9/5/2007